

CLAIMS

What is claimed is:

1. A method of storing a respiring biological material wherein the respiring biological material is stored in a packaging atmosphere within a sealed container which

(a) has an interior surface at least part of which is composed of a hydrophilic polymer composition (HPC), and

(b) comprises an auxiliary component comprising a second polymeric composition (i) which is not an HPC, and (ii) through which pass oxygen and carbon dioxide entering or leaving the packaging atmosphere.

2. A method according to claim 1 which has at least one of the following characteristics

(a) the auxiliary component has an R ratio greater than 1, for example at least 1.5, e.g. 2 to 4;

(b) the auxiliary component has a P_{10} ratio greater than 1, for example at least 1.3;

(c) the auxiliary component comprises an atmosphere control member (ACM) comprising a microporous film having a coating of the polymer thereon, the ACM optionally having one or both following characteristics

(i) the polymer coated on the microporous film is a side chain crystalline (SCC) polymer, e.g. a block copolymer in which one of the blocks is an SCC polymer and the other block is a polysiloxane block, or an amorphous polymer, e.g. a polysiloxane, and

(ii) the ACM provides at least 50%, for example at least 80% or at least 95%, e.g. 98-100%, of the total oxygen permeability of the sealed container;

(d) the auxiliary component is part of a laminate comprising a first layer composed of the HPC and a second layer composed of the second polymeric composition, the second layer optionally having one or more of the following characteristics

(i) it is less than 10, e.g. 2-6, micron thick,

(ii) it is composed of a polyolefin, for example an ethylene polymer,

(iii) it is part of a three-layer laminate and is sandwiched between the first layer and a third layer, for example a third layer composed of an HPC polymer, and

(iv) it has an MVTR of 50 to 250, e.g. 150 to 250, preferably 100 to 220, particularly 140 to 200.

3. A method according to claim 1 or 2 wherein the HPC is in the form of a film (including a film which is a layer in a laminate including one or more other layers) having a window therein, and the auxiliary component covers the window.

4. A method according to any one of the preceding claims wherein the container
5 comprises at least one first discrete section composed of the HPC and at least one second discrete section composed of the second polymeric composition.

5. A method according to any one of preceding claims wherein the HPC provides at least 25%, e.g. at least 50% or at least 75% or at least 95% or substantially all, of the interior surface of sealed container.

6. A method according to any one of the preceding claims wherein the total quantity of oxygen and carbon dioxide in the packaging atmosphere is less than 18%, for example an oxygen content of 2-5% and a carbon dioxide content of 5-10%.

7. A method according to any one of the preceding claims wherein the HPC composition comprises a polyamide, for example nylon-6, nylon-66, nylon 6/66 or nylon-
15 6/12., and/or comprises a blend of an HPC and a polymer which is not an HPC, e.g. an olefin polymer, e.g. polyethylene.

8. A method according to any one of preceding claims wherein a film consisting of the HPC, when immersed in water at 23°C, has an equilibrium water content of at least 6.0%, e.g. at least 8.0%, by weight based on the dry weight of their composition.

9. A method according to any one of the preceding claims wherein a film consisting of the HPC, when exposed at 23°C to an atmosphere having relative humidity of 50%, has an equilibrium water content of at least 2.0%, e.g. at least 2.4%, by weight, based on the dry weight of composition.

10. A method according to any one of the preceding claims wherein the respiring
25 biological material is bananas.

11. A sealable container which, when sealed around a respiring biological material, is suitable for use in the method of any one of the preceding claims and which

(a) has an interior surface at least part of which is composed of a hydrophilic polymer composition (HPC), and

(b) comprises an auxiliary component comprising a second polymeric composition (i) which is not an HPC, and (ii) through which pass oxygen and carbon dioxide entering or leaving the packaging atmosphere.

12. A sealed container which is suitable for use in the method of any one of the claims 1 to 10 and which

(a) has an interior surface at least part of which is composed of a hydrophilic polymer composition (HPC), and

(b) comprises an auxiliary component comprising a second polymeric composition (i) which is not an HPC, and (ii) through which pass oxygen and carbon dioxide entering or leaving the packaging atmosphere.

13. A laminate which is suitable for use in a container as defined in claim 11 and which

(a) comprises a first layer composed of an HPC and a second layer which is composed of a second polymeric composition which is not an HPC, and

(b) has a thickness such that its moisture vapor transmission rate is 50 to 250, e.g. 150 to 250, preferably 100 to 220, particularly 140 to 200.

14. A laminate according to claim 13 which has one or more following characteristics

(a) the second layer has one or more of the following characteristics

(i) it is less than 10, e.g. 2-6, micron thick,

(ii) it is composed of an olefin polymer, for example polyethylene or another ethylene polymer, and

(iii) it is part of a three-layer laminate and is sandwiched between the first layer and a third layer, for example a third layer composed of an HPC.